

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(6) : Please See Extra Sheet.

US CL : Please See Extra Sheet.

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 435/6, 7.1, 69.1, 240.1, 252.3, 252.33, 255.1, 320.1, 514/12, 530/350, 388.1, 536/23.1, 800/2

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

APS, Biosis, Medline, WPI

Search Terms: NeuropeptideY, Peptide YY, Pancreatic Peptide, receptor, cloning, DNA, antibodies, treatment.

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	Annals of the New York Academy of Sciences, Volume 611, issued 15 November 1990, Wahlestedt et al, "Neuropeptide Y Receptor Subtypes, Y1 and Y2", pages 7-26, see pages 19-23.	1-146
A	US, A, 4,839,343 (WAEBER ET AL) 13 June 1989, see entire document.	117-136
A	Life Sciences, Volume 40, issued 1991, Wahlstedt et al, "Identification of Cultured Cells Selectively Expressing Y1-, Y2-, or Y3-Type Receptors for Neuropeptide Y/Peptide YY", pages PL-7-PL-12, see entire document.	1-146



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:	* T	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
* A* document defining the general state of the art which is not considered to be of particular relevance	* X*	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
* E* earlier document published on or after the international filing date	* Y*	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
* L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	* G*	document member of the same patent family
* O* document referring to an oral disclosure, use, exhibition or other means		
* P* document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search

20 MARCH 1995

Date of mailing of the international search report

11 APR 1995

Name and mailing address of the ISA/US  
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Jonathan A. Bard, et al.  
U.S. Serial No.: 08/495,695  
Filed: January 13, 1997  
Exhibit 42

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US94/14436

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	The Journal of Neuroscience, Volume 4, Number 9, issued September 1984, Lundberg et al, "Comparative Immunohistochemical and Biochemical Analysis of Pancreatic Polypeptide-Like Peptides with Special Reference to Presence of Neuropeptide Y in Central and Peripheral Neurons", pages 2376-2386, see pages 2378-2381.	1-146
A	The Journal of Biological Chemistry, Volume 267, Number 16, issued 05 June 1992, Larhammar et al, "Cloning and Functional Expression of a Human Neuropeptide Y/Peptide YY Receptor of the Y1 Type", pages 10935-10938, see pages 10936-10938.	1-146
A	Proceedings of the National Academy of Sciences, Volume 89, Number 13, issued 01 July 1992, Herzog et al, "Cloned Human Neuropeptide Y Receptor Couples to Two Different Second Messenger Systems", pages 5794-5798, see pages 5795-5797.	1-146

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US94/14436

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
  
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

Please See Extra Sheet.

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☒ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
  
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.  
☐ No protest accompanied the payment of additional search fees.

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US94/14436

## A. CLASSIFICATION OF SUBJECT MATTER: IPC (6):

A61K 38/17; C07K 14/705, 16/00; C12N 15/09, 15/63, 15/70, 15/81; C12Q 1/00

## A. CLASSIFICATION OF SUBJECT MATTER: US CL :

435/6, 7.1, 69.1, 240.1, 252.3, 252.33, 255.1, 320.1; 514/12; 530/350, 388.1; 536/23.1; 800/2

## BOX II. OBSERVATIONS WHERE UNITY OF INVENTION WAS LACKING This ISA found multiple inventions as follows:

This application contains the following inventions or groups of inventions which are not so linked as to form a single inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I, claims 1-42, 49-54, 61-70, 72-87, 94-113, and 146, drawn to the Y4 receptor and its encoding nucleic acid, classified in Class 435, subclass 69.1.

Group II, claims 43-48 and 133, drawn to the Y4 receptor antibody and an assay for using the antibody, classified in Class 530, subclass 388.22.

Group III, claims 55-60, 134-136, and 140, drawn to a transgenic mammal, classified in Class 800, subclass 2.

Group IV, claims 71, 88-93, 114, 115, 117-132, 137-139, and 141-143, drawn to ligands that interact with the receptor and methods of treatment using the ligands, classified in Class 514, subclass 1.

Group V, claims 116, 144, and 145, drawn to a method of diagnosing a predisposition, classified in Class 435, subclass 6.

The inventions listed as Groups I-V do not relate to a single inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Groups I, II, III, IV, and V are directed to materially distinct products and materially distinct methods of using the products. The inventions are not required for each other because the products are structurally and functionally different, and the methods have different goals, steps, and reagents. Additionally, Groups I and V include different methods of using the probes of Group I. The claims are not so linked by a special technical feature within the meaning of PCT Rule 13.2 so as to form a single inventive concept.